IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Tomoyuki Ohzeki — Group Art Unit: 1752

Application No. 10/736,561 — Examiner: Thorl Chea

Filed: December 17, 2003

For: PHOTOTHERMOGRAPHIC MATERIAL AND IMAGE FORMING METHOD USING SAME

DECLARATION UNDER 37 C.F.R. §1.132

Honorable Commissioner of Patents and Trademarks
P.O. Box 1450, Alexandria, Virginia 22313-1450

Sir:

I, Tomoyuki Ohzeki, do declare and state as follows:

I graduated from Graduate School of Science and Engineering of Waseda University with a Master's Degree in Science in March 1988;

I joined Fuji Photo Film Co., Ltd. in April 1988, and since that time I have been engaged in research and development in the field of silver halide photographic photosensitive materials, and from 1998 to present, I have been involved in the development of silver halide photothermographic photosensitive material at Ashigara Research Laboratories (presently Medical Systems

Development Center); and

I am familiar with the Office Action of April 5, 2006, and understand that the Examiner has rejected Claims 1, 4 to 8 and 10 to 20 under 35 U.S.C. § 103(a) as being unpatentable over Shor et al. (USP No. 6,413,710).

The following additional experiments were carried out under my supervision in order to make the advantages of the subject matter disclosed and claimed in the above-identified application more clear.

Experiment:

Example 1 was prepared in the same manner as Example 1-3 of the specification of the present application. Namely, Example 1 of the experiment in the Declaration was prepared so that the image-forming layer, the first protection layer and the second protection layer having the same composition as that of the sample 1-26 of Example 1-2 of the specification of the present application were applied on each side of a support. Further, Examples 2 to 15 were prepared in the same manner as Example 1, except that the average sphere-equivalent diameter, silver iodide content, and the kind and addition amount of the silver iodide complex forming agent were varied as shown in the following Table 1. Among these examples, Example 3

contains the emulsion taught in Example 1 of Shor, and Example 4 contains the emulsion taught in Example 5 of Shor. (The emulsion of Example 1 of Shor contains the compound that corresponds to F-431 as disclosed in the invention in the amount of 96 mol%/AgX.)

Haze, photographic properties (sensitivity and D_{min}), and image stability of printout of the thus prepared Examples 1 to 15 were then evaluated in the same manner as those for Example 1-3 of the present invention by using the X-ray intensifying screen. The results of the evaluation are shown in the following Table 1. The underlined values in Table 1 are recognized as problematic in practical usage.

Table 1

Example	Photosensitive silver halide			Silver iodide complex forming agent		Haze		Photographic property		Image stability of printout	Remarks
	Silver iodide content (%)	Average sphere-equivalent diameter (μm)	Shape	Compound No.	Addition amount (mol%/AgX)	Before development	After development	D_{min}	Sensitivity		
1	100	0.75	Tabular	F-444	8	63.5	30.5	0.20	100	0.04	Present invention
2	100	0.75	Tabular	F-431	96	63.1	25.5	0.19	115	0.02	Present invention
3	2	0.093	Non-tabular	F-431	96	28.5	25.5	0.20	2	0.75	Comparative example
4	4.3	0.149	Non-tabular	F-431	96	32.5	29.5	0.22	8	0.80	Comparative example
5	90	0.2	Tabular	F-431	96	57.2	23.2	0.23	19	0.01	Comparative example
6	90	6.0	Tabular	F-431	96	72.1	42.5	0.35	215	0.22	Comparative example
7	90	5.0	Tabular	F-431	96	70.5	30.2	0.26	192	0.05	Present invention
8	90	0.3	Tabular	F-431	96	58.9	24.0	0.24	80	0.02	Present invention
9	100	0.3	Tabular	F-803	300	59.1	22.5	0.18	75	0.01	Present invention
10	95	2.0	Tabular	F-805	200	67.2	23.5	0.21	155	0.02	Present invention
11	90	1.0	Tabular	F-718	10	65.2	28.5	0.20	125	0.04	Present invention
12	100	5.0	Tabular	F-518	1	70.8	35.0	0.24	180	0.12	Present invention
13	100	5.0	Tabular	F-442	300	71.0	24.2	0.24	180	0.02	Present invention
14	90	0.3	Tabular	F-902	1	59.2	27.5	0.18	75	0.03	Present invention
15	90	0.3	Tabular	F-434	300	59.0	22.0	0.18	70	0.01	Present invention

As can be seen from the above results, in the experiments for evaluating the effects of the photothermographic material having an image-forming layer on each of both sides of a support and being exposed imagewise by using an X-ray intensifying screen, compared to the comparative examples which are outside the scope of the present invention, unexpectably superior effects in haze, photographic properties (sensitivity and D_{min}) and image stability (printout) were obtained in Examples 1, 2 and 7 to 15, each of which uses the tabular photosensitive silver halide grains having the claimed range of average sphere-equivalent diameter, the claimed range of silver iodide content, and the silver iodide complex forming agent in the photothermographic material in an amount of 1 to 300 mol% relative to the amount of the photosensitive silver halide as claimed in Claim 1 of the present application.

In contrast, with regard to the comparative examples, Examples 3 and 4 exhibit significantly low sensitivities and significantly large printout values. Example 5 also exhibits significantly low sensitivity. Example 6 exhibits large D_{min} and haze after development, which make a practical application of Example 6 impossible in spite of its sensitivity.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE: August 30, 2006

Tomoyuki Ohzeki

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